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                  Zentralblatt
NEWS 3 OCT 19 BEILSTEIN updated with new compounds
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                  IMSDRUGCONF removed from database clusters and STN
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                  MEDLINE segment
NEWS 13 DEC 17 MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary
NEWS 14 DEC 17 CA/Caplus enhanced with new custom IPC display formats
NEWS 15 DEC 17 STN Viewer enhanced with full-text patent content
                  from USPATOLD
NEWS 16 JAN 02
                  STN pricing information for 2008 now available
NEWS 17 JAN 16 CAS patent coverage enhanced to include exemplified
                  prophetic substances
NEWS 18 JAN 28 USPATFULL, USPAT2, and USPATOLD enhanced with new
                  custom IPC display formats
NEWS 19 JAN 28 MARPAT searching enhanced
NEWS 20 JAN 28 USGENE now provides USPTO sequence data within 3 days
                  of publication
NEWS 21 JAN 28 TOXCENTER enhanced with reloaded MEDLINE segment
NEWS 22 JAN 28 MEDLINE and LMEDLINE reloaded with enhancements
NEWS 23 FEB 08 STN Express, Version 8.3, now available
NEWS 24 FEB 20 PCI now available as a replacement to DPCI
NEWS 25 FEB 25 IFIREF reloaded with enhancements
NEWS 26 FEB 25 IMSPRODUCT reloaded with enhancements
NEWS 27 FEB 29 WPINDEX/WPIDS/WPIX enhanced with ECLA and current
                  U.S. National Patent Classification
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NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3, AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

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=> s (alkene or propene or propylene) and epoxidation and ("liquid alkene" or "liquid propene" or "liquid propylene" or "condensed alkene" or "condensed propylene" or "condensed propene") and (hydroperoxide or "hydrogen peroxide") 37807 ALKENE

88223 ALKENES

101827 ALKENE

(ALKENE OR ALKENES)

76190 PROPENE

783 PROPENES

76528 PROPENE

(PROPENE OR PROPENES)

195786 PROPYLENE

304 PROPYLENES

195885 PROPYLENE

(PROPYLENE OR PROPYLENES)

15102 EPOXIDATION

249 EPOXIDATIONS 15136 EPOXIDATION

(EPOXIDATION OR EPOXIDATIONS)

26780 EPOXIDN 582 EPOXIDNS

26871 EPOXIDN

(EPOXIDN OR EPOXIDNS)

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          (EPOXIDATION OR EPOXIDN)
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 142164 "LIOUIDS"
924108 "LIOUID"
          ("LIQUID" OR "LIQUIDS")
1127520 "LIQ"
106359 "LIQS"
1168065 "LIO"
          ("LIO" OR "LIOS")
1621350 "LIOUID"
         ("LIQUID" OR "LIQ")
 37807 "ALKENE"
 88223 "ALKENES"
 101827 "ALKENE"
         ("ALKENE" OR "ALKENES")
     66 "LIQUID ALKENE"
         ("LIQUID"(W) "ALKENE")
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 142164 "LIQUIDS"
924108 "LIQUID"
          ("LIQUID" OR "LIQUIDS")
1127520 "LIO"
106359 "LIOS"
1168065 "LIO"
          ("LIQ" OR "LIQS")
1621350 "LIQUID"
         ("LIQUID" OR "LIO")
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          ("PROPENE" OR "PROPENES")
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 817969 "LIOUID"
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924108 "LIQUID"
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         ("LIO" OR "LIOS")
1621350 "LIOUID"
          ("LIQUID" OR "LIQ")
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 195885 "PROPYLENE"
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          ("LIQUID" (W) "PROPYLENE")
 127554 "CONDENSED"
  37807 "ALKENE"
  88223 "ALKENES"
 101827 "ALKENE"
          ("ALKENE" OR "ALKENES")
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          ("CONDENSED" (W) "ALKENE")
 127554 "CONDENSED"
 195786 "PROPYLENE"
    304 "PROPYLENES"
 195885 "PROPYLENE"
          ("PROPYLENE" OR "PROPYLENES")
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         76190 "PROPENE"
           783 "PROPENES"
         76528 "PROPENE"
                 ("PROPENE" OR "PROPENES")
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                ("CONDENSED"(W) "PROPENE")
         34180 HYDROPEROXIDE
         15594 HYDROPEROXIDES
         40638 HYDROPEROXIDE
                 (HYDROPEROXIDE OR HYDROPEROXIDES)
       1049159 "HYDROGEN"
          6166 "HYDROGENS"
       1052587 "HYDROGEN"
                ("HYDROGEN" OR "HYDROGENS")
        228004 "PEROXIDE"
         48394 "PEROXIDES"
        247053 "PEROXIDE"
                 ("PEROXIDE" OR "PEROXIDES")
        127005 "HYDROGEN PEROXIDE"
                 ("HYDROGEN"(W) "PEROXIDE")
             8 (ALKENE OR PROPENE OR PROPYLENE) AND EPOXIDATION AND ("LIOUID
               ALKENE" OR "LIQUID PROPENE" OR "LIQUID PROPYLENE" OR "CONDENSED
               ALKENE" OR "CONDENSED PROPYLENE" OR "CONDENSED PROPENE") AND
               (HYDROPEROXIDE OR "HYDROGEN PEROXIDE")
=> d l1 1-8 abs ibib
     ANSWER 1 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN
    The method comprises epoxidizing liquid propylene with
     liquid organic hydroperoxide in the presence of a catalyst, wherein
     temperature of propylene gas introduced into the inlet of a compressor
     to compress is higher than that saturation temperature. The method prevents
the drain
     formation with supplying the gas at the temperature which is higher than
     dew-point temperature of the gas which is supplied to the compressor.
ACCESSION NUMBER: 2005:297624 CAPLUS
DOCUMENT NUMBER: 142:355703
                       Method for production of propylene oxide
INVENTOR(S): Shinohara, Koji; Omae, Shunichi
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
                        Jpn. Kokai Tokkyo Koho, 4 pp.
SOURCE:
                         CODEN: JKXXAF
DOCUMENT TYPE:
                        Patent
LANGUAGE:
                         Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
                        KIND DATE APPLICATION NO. DATE
     PATENT NO.
                               20050407 JP 2003-327709
                                                                  20030919
     JP 2005089404
                                            JP 2003-327709
PRIORITY APPLN. INFO.:
```

AB

TITLE:

ANSWER 2 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN A method is described for producing an epoxide (e.g., propylene oxide) comprising: (i) preparation of a stream (S1) containing a compressed liquid alkene (e.g., propylene); (ii) expansion of at a least part of the stream (S1) by heat absorption and at least partial evaporation of the liquid alkene; (iii) reaction of the alkene obtained according to step (ii) with a

hydroperoxide (e.g., hydrogen peroxide) in the presence of at least one solvent (e.g., methanol) and at least one catalyst (e.g., titanium silicalite) to obtain a mixture containing the epoxide

and the solvent(s). 2004:902364 CAPLUS

ACCESSION NUMBER: DOCUMENT NUMBER: 141:380278

TITLE: Method for producing an epoxide

INVENTOR(S): Goebbel, Hans-Georg; Bassler, Peter; Teles, Joaquim

Henrique; Rudolf, Peter

PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 27 pp.

CODEN: PIXXD2 DOCUMENT TYPE: Patent

LANGUAGE: German FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PR RE

| | | | | | | | | | | | LICAT | | | | | ATE | |
|------|------|------|------|-----|-----|-----|------|------|-----|-----|-------|------|-------|------|------|------|------|
| | | | | | | | | | | | 2004- | | | | | 0040 | 416 |
| | W: | ΑE, | AG, | AL, | AM, | AT, | AU, | AZ, | BA, | BB | , BG, | BR, | BW, | BY, | BZ, | CA, | CH, |
| | | CN, | CO, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ | , EC, | EE, | EG, | ES, | FI, | GB, | GD, |
| | | GE, | GH, | GM, | HR, | HU, | ID, | IL, | IN, | IS | , JP, | KE, | KG, | KP, | KR, | KZ, | LC, |
| | | LK, | LR, | LS, | LT, | LU, | LV, | MA, | MD, | MG | , MK, | MN, | MW, | MX, | MZ, | NA, | NI, |
| | | NO. | NZ, | OM. | PG. | PH, | PL, | PT. | RO, | RU | , SC, | SD, | SE, | SG, | SK, | SL, | SY, |
| | | TJ, | TM, | TN, | TR, | TT, | TZ, | UA, | UG, | US | , UZ, | VC, | VN, | YU, | ZA, | ZM, | ZW |
| | RW: | BW, | GH, | GM, | KE, | LS, | MW, | MZ, | SD, | SL | , SZ, | TZ, | UG, | ZM, | ZW, | AM, | AZ, |
| | | BY, | KG, | KZ, | MD, | RU, | TJ, | TM, | AT, | BE | , BG, | CH, | CY, | CZ, | DE, | DK, | EE, |
| | | ES, | FI, | FR, | GB, | GR, | HU, | IE, | IT, | LU | , MC, | NL, | PL, | PT, | RO, | SE, | SI, |
| | | SK, | TR, | BF. | BJ, | CF, | CG, | CI, | CM, | GA | , GN, | GQ, | GW, | ML, | MR, | NE, | SN, |
| | | TD, | TG | | | | | | | | | | | | | | |
| DE | 1031 | 7520 | | | A1 | | 2004 | 1104 | | DE | 2003- | 1031 | 7520 | | 2 | 0030 | 416 |
| CA | 2522 | 466 | | | A1 | | 2004 | 1028 | | CA | 2004- | 2522 | 466 | | 2 | 0040 | 416 |
| EP | 1620 | 415 | | | A1 | | 2006 | 0201 | | EP | 2004- | 7278 | 58 | | 2 | 0040 | 416 |
| EP | 1620 | 415 | | | В1 | | 2007 | 1121 | | | | | | | | | |
| | R: | AT, | BE, | CH, | DE, | DK, | ES, | FR, | GB, | GR | , IT, | LI, | LU, | NL, | SE, | MC, | PT, |
| | | IE, | SI, | FI. | RO, | CY, | TR. | BG, | CZ, | EE | , HU, | PL, | SK | | | | |
| BR | 2004 | 0094 | 25 | | A | | 2006 | 0425 | | BR | 2004- | 9425 | | | 2 | 0040 | 416 |
| CN | 1791 | 587 | | | A | | 2006 | 0621 | | CN | 2004- | 8001 | 3456 | | 2 | 0040 | 416 |
| | | | | | | | | | | | 2005- | | | | | | |
| | | | | | | | | | | | 2005- | | | | | | |
| RITY | APP: | LN. | INFO | . : | | | | | | DE | 2003- | 1031 | 7520 | | A 2 | 0030 | 416 |
| | | | | | | | | | | WO | 2004- | EP40 | 77 | | W 2 | 0040 | 416 |
| RENC | E CO | UNT: | | | 5 | Т | HERE | ARE | 5 C | ITE | D REF | EREN | CES . | AVAI | LABL | E FO | R TH |

1.1 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

AB In a system for manufacturing propylene oxide by epoxidn. of

liquid propylene (I) with liquid organic hydroperoxide in the presence of a catalyst, ≥2 pumps are equipped in parallel in a passage, through which I is supplied. In this system, supply of I is ensured, thus preventing deactivation of the catalyst even in an emergency

RECORD, ALL CITATIONS AVAILABLE IN THE RE FORMAT

case where one of the I-supplying pumps is terminated. 2003:274775 CAPLUS

ACCESSION NUMBER: DOCUMENT NUMBER: 138:272089

TITLE: System for manufacturing propylene oxide and

its manufacture

INVENTOR(S): Katao, Masaaki; Omae, Shunichi; Shinohara, Koji

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

Patent

DOCUMENT TYPE:

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| | | | | |
| JP 2003104979 | A | 20030409 | JP 2001-299008 | 20010928 |
| PRIORITY APPLN. INFO.: | | | JP 2001-299008 | 20010928 |

ANSWER 4 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

The invention relates to a method of regenerating a solid catalyst used for an epoxidn. of propylene and an organic peroxide such as cumene hydroperoxide in a reactor filled with the solid catalyst, wherein a liquid such as propylene passes through the reactor at a temperature higher than the maximum temperature of the epoxidn. by ≥5° to regenerate the solid catalyst.

ACCESSION NUMBER: 2002:704699 CAPLUS

DOCUMENT NUMBER: 137:222566

TITLE:

Method of regenerating solid catalyst INVENTOR(S): Tsuji, Junpei; Osaki, Shunichi

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF DOCUMENT TYPE: Patent

LANGUAGE: Japanese FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| | | ENT : | | | | | | DATE | | | APE | PLI | CAT: | ION I | NO. | | D. | ATE | |
|------|------|--------------|------|------|-----|-----|-----|------|------|-----|-----|------|------|-------|------|-----|-----|------|-----|
| | | 2002
2245 | | | | | | 2002 | 0917 | | JP | 20 | 01- | 7178 | 1 | | 2 | 0010 | 314 |
| | TW | 2245 | 23 | | | В | | 2004 | 1201 | | TW | 20 | 02-9 | 9110 | 4030 | | 2 | 0020 | 305 |
| | CA | 2440 | 602 | | | A1 | | 2002 | 0919 | | CA | 20 | 02-2 | 2440 | 602 | | 2 | 0020 | 307 |
| | | 2002 | | | | | | | | | | | | | | | | | |
| | | | | | | | | AU, | | | | | | | | | | | |
| | | | | | | | | DK, | | | | | | | | | | | |
| | | | | | | | | IN, | | | | | | | | | | | |
| | | | LT. | LU. | LV. | MA. | MD. | MG, | MK. | MN. | ΜV | v. 1 | MX. | MZ. | NO. | NZ. | OM. | PH. | PL. |
| | | | | | | | | SG, | | | | | | | | | | | |
| | | | UG, | US. | UZ, | VN, | YU, | ZA, | ZM, | ZW | | | | | | | | | |
| | | RW: | GH. | GM. | KE. | LS. | MW. | MZ, | SD. | SL, | SZ | z. : | TZ. | UG, | ZM. | ZW. | AT, | BE, | CH, |
| | | | | | | | | FR, | | | | | | | | | | | |
| | | | BF, | BJ, | CF, | CG, | CI, | CM, | GA, | GN, | GC | ο, ο | GW, | ML, | MR, | NE, | SN, | TD, | TG |
| | ΑU | 2002 | 2362 | 40 | | A1 | | 2002 | 0924 | | AU | 20 | 02-2 | 2362 | 40 | | 2 | 0020 | 307 |
| | | 1371 | | | | | | | | | | | | | | | | | |
| | | R: | AT, | BE, | CH, | DE, | DK, | ES, | FR, | GB, | GF | ٦, : | IT, | LI, | LU, | NL, | SE, | MC, | PT, |
| | | | | | | | | RO, | | | | | | | | | | | |
| | BR | 2002 | 0080 | 58 | | A | | 2004 | 0302 | | BR | 20 | 02-1 | 3058 | | | 2 | 0020 | 307 |
| | CN | 1501 | 839 | | | A | | 2004 | 0602 | | CN | 20 | 02-1 | 3064 | 14 | | 2 | 0020 | 307 |
| | US | 2004 | 0828 | 00 | | A1 | | 2004 | 0429 | | US | 20 | 03- | 1714 | 21 | | 2 | 0030 | 911 |
| | US | 6982 | 235 | | | B2 | | 2006 | 0103 | | | | | | | | | | |
| | IN | 2003 | CN01 | 449 | | A | | 2005 | 1125 | | IN | 20 | 03-0 | CN14 | 49 | | 2 | 0030 | 915 |
| PRIO | RITY | APP | LN. | INFO | . : | | | | | | | | | | 1 | | | | |
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ANSWER 5 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

Titanovanadosilicalites are very selective and active catalysts in the epoxidn. of olefins by peroxides. Diluted H2O2 suffices to afford high yields of the epoxide. V incorporation at levels of Si:V = 100-2500 effectively changes the characteristics of the titanosilicalite into which it is incorporated to give near quant. conversion of propylene at selectivities >90%. For example, reacting liquid

propylene with H202 (30% aqueous solution) in MeOH for 6 h at 35°/500 psi under N in the presence of K-exchanged Ti-V-silicalite catalyst (average particle size 130 nm; preparation given) gave 95% propylene oxide with propylene conversion >99%.

ACCESSION NUMBER: 1998:263255 CAPLUS

DOCUMENT NUMBER: 128:321554

TITLE: Titanovanadosilicalites as epoxidation

catalysts for olefins

INVENTOR(S): Nemeth, Laszlo T.; Lewis, Gregory J.; Rosin, Richard

UOP LLC, USA
U.S., 7 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

| PATENT | INFO | RMATI | ON: |
|--------|------|-------|-----|

PATENT ASSIGNEE(S):

SOURCE:

| PATENT NO. | KIND | DATE | DATE APPLICATION NO. | | | | | |
|------------------------|--------|-----------|------------------------|---------------|--|--|--|--|
| US 5744619 | A | 19980428 | US 1997-818265 | 19970317 | | | | |
| ZA 9806223 | A | 19990202 | ZA 1998-6223 | 19980713 | | | | |
| CA 2243009 | A1 | 20000113 | CA 1998-2243009 | 19980713 | | | | |
| CA 2243009 | C | 20070619 | | | | | | |
| EP 978315 | A1 | 20000209 | EP 1998-305563 | 19980713 | | | | |
| EP 978315 | B1 | 20030924 | | | | | | |
| R: AT, BE, CH, | DE, DK | , ES, FR, | GB, GR, IT, LI, LU, NL | , SE, MC, PT, | | | | |
| IE, SI, LT, | LV, FI | , RO | | | | | | |
| ES 2206845 | Т3 | 20040516 | ES 1998-305563 | 19980713 | | | | |
| IN 1998DE01993 | A | 20060113 | IN 1998-DE1993 | 19980713 | | | | |
| CN 1241564 | A | 20000119 | CN 1998-103371 | 19980714 | | | | |
| AU 9876141 | A | 20000203 | AU 1998-76141 | 19980714 | | | | |
| PRIORITY APPLN. INFO.: | | | US 1997-818265 | A 19970317 | | | | |
| | | | US 1997-840531 | A 19970422 | | | | |
| | | | EP 1998-305563 | A 19980713 | | | | |
| | | | JP 1998-199271 | A 19980714 | | | | |

OTHER SOURCE(S): CASREACT 128:321554

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L1 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN
- AB Epoxides are prepared in the liquid phase by reacting an ethylenically unsatd. compound with 1 part organic hydroperoxide in 4-20 parts anhydrous organic solvent at 80-160° in the presence of molybdate catalyst. The molybdate, which has good solubility in the organic medium, a high

concentration in Mo,
very high catalytic activity, weak acidity, and high purity, is present in
a concentration of 10-4 to 2 + 10-3 mole/kg. solvent and
hydroperoxide. Thus, 400 g. com. MoO3.H2O containing 90% MoO3 was
dissolved in 900 g. concentrated HCl (d. 1.19) preheated to 90°, the
mixture cooled to room temperature, the molybdic chloride separated from the

reaction ${\rm mixture\ by\ extracting\ twice\ with\ a\ total\ of\ 2\ 1.}$ Et20, the ether solution dried and

evaporated to give 905 g. colorless crystals, the crystals redissolved in dry ether, 440 g. propylene oxide in 500 cc. Et2O added to the solution

at 10-15° during 3 hrs., the mixture stirred 1 hr. and the precipitate filtered off and washed with dry ether, water-saturated ether, and then dry ether and dried at 40° under vacuum to give 465 g.

propylene glycol molybdate (MoO4C3H6) (I) containing 71.9% MoO3. I (1 g.) was dissolved in 1 g. propylene glycol at 100°, the

product mixed with 500 g. tert-BuOH, 500 g. 99% tert-BuOOH added to give a

solution containing 5 + 10-3 g. atoms Mo/kg., 10 cc. of this solution and 20cc. liquid propylene at -80° were sealed in a

pressure-resistant glass tube, heated to 110°, cooled to -80°, and degassed to give a solution containing .apprx.10%

propylene oxide with a 79% conversion of hydroperoxide.

ACCESSION NUMBER: 1969:471417 CAPLUS

DOCUMENT NUMBER: 71:71417 ORIGINAL REFERENCE NO.: 71:13231a,13234a

TITLE: Epoxides: molvbdate catalysis

INVENTOR(S):

Poite, Michel PATENT ASSIGNEE(S): Naphtachimie Fr., 5 pp. SOURCE: CODEN: FRXXAK

DOCUMENT TYPE: Patent LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| | | | | |
| FR 1550166 | | 19681220 | FR | 19670811 |

ANSWER 7 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

Olefins are contacted in the liquid phase with tert-BuOOH at 50-200° in the presence of a Mo metal catalyst whereby the ratio Mo

metal surface to the number of g. hydroperoxide is 1-20 cm.2/g.

Thus, 100 g. liquid propylene was contacted with 22.4

g. tert-BuOOH, 22.4 g. tert-BuOH, 140 g. xylene, and the Mo metal catalyst. The following results were obtained (ratio cm.2/g., reaction

time, min. temperature, conversion in mol. %, and yield of epoxide with respect to converted hydroperoxide given): 23.3, 60, 110-11°,

90.8, 64.7; 23.3, 20, 110-11°, 52.7, 72.5, 3.9, 60, 110-11°, 82.5, 75.2; 3.9, 20, 110-11°, 32.1, 90.5; 23.3, 60, 105-6°, 73.5, 74.7, 3.9, 60, 105-6°, 75.7, 79.2. A mixture containing 1.73 g.

1-octene, 0.513 g. tert-BuOOH, and a Mo metal plate with a total surface

of 1.8 cm.2 was heated at 102° and kept 20 min. at 102° (ratio Mo metal to tert-BuOOH was 3.5 cm.2/g.) to give a conversion of 37

mole % and a yield of 100 mole %.

ACCESSION NUMBER: 1967:432577 CAPLUS

DOCUMENT NUMBER: 67:32577 ORIGINAL REFERENCE NO.: 67:6155a

TITLE: Epoxides

PATENT ASSIGNEE(S): Atlantic Refining Co. SOURCE:

Neth. Appl., 8 pp. Addn. to Neth. Appl. 6517166 CODEN: NAXXAN

DOCUMENT TYPE: Patent LANGUAGE: Dutch

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

DATE APPLICATION NO. DATE KIND PATENT NO. NL 6605821 19670102 NL 1966-5821 19660429 DE 1568001 DE FR 89938 FR GB 1146202 GB PRIORITY APPLN. INFO.: 19650701

ANSWER 8 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

The title compds. are prepared by contacting C2-4 olefins with a C4-8 tert-alkyl hydroperoxide at 50-200° in an organic solvent containing at least 20% by weight hydrocarbon in the presence of metallic Mo

```
Mo compound Thus, expts. were carried out with 25 g. 94% tert-BuOOH and
     0.05 g. Mo(CO)6 as catalyst while tert-BuOH and C6H6 were used as solvent.
     To this mixture was added 100 cc. liquid propylene and
     the reaction carried out 1 hr. at 110^{\circ}-11^{\circ}. The following results were obtained (tert-BuOH in g., C6H6 in g., C6H6 % by weight, conversion in
     mole %, and yield of 1,2-epoxypropane in mole % given): 0, 125, 100, 92.2,
     88.8 (at a reaction temperature of 106°); 25, 100, 80, 82.0, 89.3; 50,
     75, 60, 70.8, 84.8; 75, 50, 40, 58.3, 86.0; 100, 25, 20, 47.0, 86.5; 125,
     0, 0, 43.0, 77.2. A similar experiment with 25 g. tert-BuOOH, 0.05 g. Mo(CO)6,
     and 125 g. tert-BuOH and no hydrocarbon solvent gave, when treated with
     100 cc. liquid propylene 1 hr. at 106°, 43.5
     mole % conversion and 64.3 mole % yield of 1,2-epoxypropane. Under
     optimum conditions a yield of 75 mole % and a conversion of 89 mole % were
     obtained. Similarly, 22.4 g. tert-BuOOH (100 %), 22.4 g. tert-BuOH, 0.1
     g. Mo(CO)6, 100 cc. liquid propylene allowed to react
     1 hr. at 110-11° gave with 120 g. xylene (isomeric mixture) 93.7 mole
     % conversion and 70.0 mole % yield. The use of 140 g. xylene gave 91.7
     mole % conversion and 80.2 mole % yield. The latter experiment carried out
     with other catalysts gave the following results (amount of catalyst,
     catalyst, conversion, and yield in mole % given): 0.05 g., MoCl5, 92.0,
     82.0; 1.5 g., MoO2 (freshly prepared by reduction of Na2MoO4 with NH2.NH2),
     95.0, 74.0; 0.1 g. powdered Mo, 92.1, 71.5.
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DOCUMENT NUMBER:
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PRIORITY APPLN. INFO.:
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=> log hold
COST IN U.S. DOLLARS
                                                  SINCE FILE
                                                                  TOTAL
                                                       ENTRY SESSION
                                                       65.96
                                                                 66.17
FULL ESTIMATED COST
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TOTAL

-6.40

ENTRY SESSION -6.40

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